

ITACA – ITalian ACcelerometric Archive

ITACA is the Italian strong motion database. It contains more than 2000 three component waveforms generated by about 1000 earthquakes from 1972 to 2009. Strong motion data come mainly from National Accelerometric Network, operated by Dipartimento della Protezione Civile - DPC.

Corrected and uncorrected time-series as well as spectral data can be downloaded in ASCII format. ITACA interfaces allow set parameters of interest and retrieve specific events, stations, waveforms and their metadata.

Under the sponsorship of the Italian Department of Civil Protection (DPC), the project S4 is presently in progress to improve and update the Italian strong motion database ITACA (ITalian ACcelerometric Archive, <http://itaca.mi.ingv.it>). This work starts from the alfa version of ITACA (Luzi et al., 2008), where 2182 3-component records from 1004 earthquakes were processed and included in the database, together with the earthquake metadata, the recording station information and reports on the available geological-geophysical information of 452 recording sites, corresponding to about 70% of the total. Most records come from the National Accelerometric Network (RAN), operated by DPC, that is expected to include 511 digital stations by 2011, with a 20-30 km average distance in high-risk seismic areas

The beta version of ITACA, which will reach its final stage by the end of the project, around mid-2010, will include several improvements and additional features, namely:

- strong motion records from other local and/or temporary networks, and from recent seismic events, *in primis* the L'Aquila earthquake of Apr 6, 2009, and its main aftershocks;
- updated reports, with an improved format, on the available geological/geophysical information for all recording stations, including average HVSR from microtremors and earthquakes where available, and the measured Vs profile at about 60 stations, corresponding to about 10% of the total;
- identification of stations and records showing distinctive features, either due to geological/topographic irregularities or due to seismic source effects;
- on-line tools for selection of spectrum-compatible records.

All records were re-processed with respect to the alfa version, with a special care to preserve information about late-triggered events and to ensure compatibility of corrected records, i.e., velocity and displacement traces should be truly the first and second integral of the corrected acceleration signal.

Finally, ITACA is expected to be soon integrated within other international strong motion networks, such as COSMOS, in order to promote the dissemination and use worldwide of the Italian strong motion records.